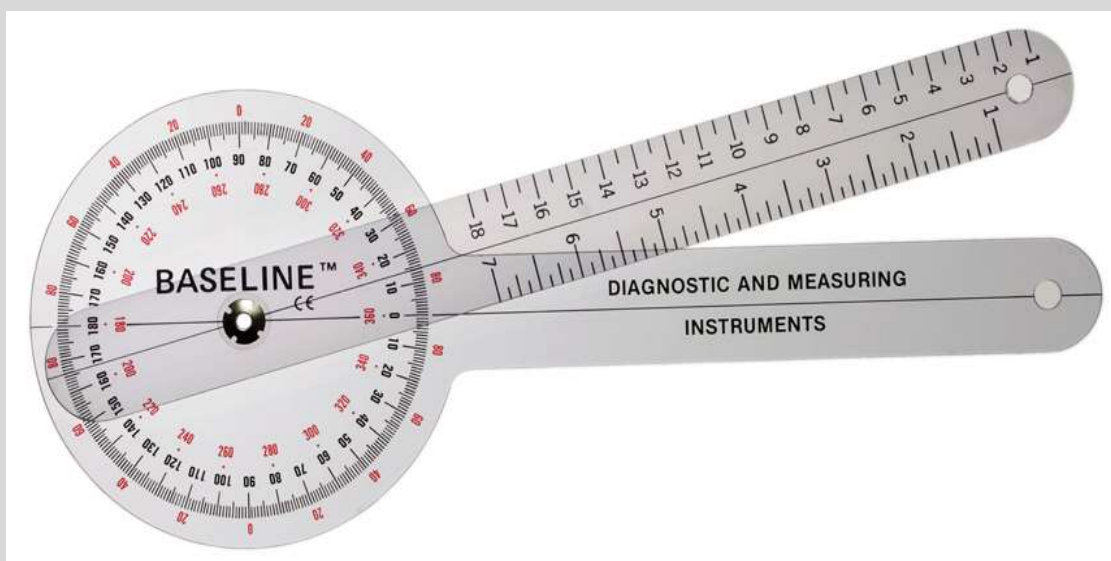
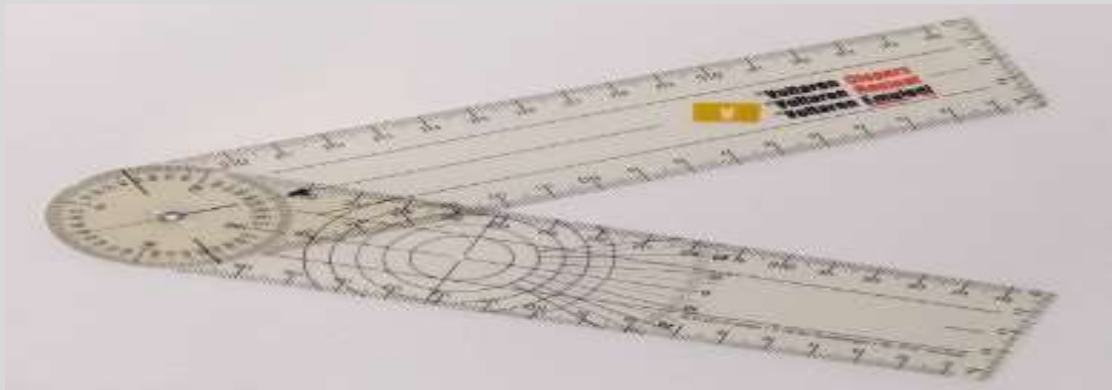


Goniometer



-A goniometer is an instrument that either measures an angle or allows an object to be rotated to a precise angular position.

-The term goniometry is derived from two Greek words, (*gōnia*) meaning angle, and (*metron*) meaning measure.



Goniometric procedures

- Explain/demonstrate procedure
- Position and drape appropriately
- Observe or measure uninvolved and AROM first
- Make visual estimation of motion
- Ensure proximal stabilization
- PROM with identification of end feel
- Landmark identification through palpation
- Align measurement device in neutral or zero position
- Measure end range position
- Document findings and compare to “normal” or uninvolved

Goniometer positioning

- Not standardized
- Start in reference “zero” position – document if zero position can't be achieved
- Permit complete range of motion
 - avoid positions that put biarticular muscles in position of passive insufficiency
 - *knee extensor flexibility vs. knee flexion range of motion*
- Ensure proximal segment stability



Device alignment

- **Expose landmarks**
- **Align Distal Arm**
 - Moving arm parallel to the long axis of the segment
- **Align Proximal Arm**
 - Stationary arm parallel to the long axis of the segment
- **Position Axis or “fulcrum”**
 - Convex pivot point
 - Axis may move with motion
 - prioritize arm alignment over axis alignment

Device stabilization

- **Must prevent the compensatory movements :-**
 - Subtalar joint pronation to increase ankle dorsiflexion ROM
 - Lumbar hyperextension to increase shoulder flexion
 - Jaw opening to increase cervical flexion
 - Trunk lateral flexion to increase hip rotation

